

ABSTRACT

A fuel cell power system practical for use in a vehicle includes a fuel cell, a first hydrogen storage vessel having a first hydrogen absorbing material storing and releasing hydrogen, a catalytic combustor that heats the first hydrogen storage vessel so as to release hydrogen in order to supply hydrogen to the fuel cell, and a second hydrogen storage vessel having a second hydrogen absorbing material storing and releasing hydrogen and has a hydrogen release temperature that is lower than that of the first hydrogen absorbing material, the second hydrogen storage vessel releasing hydrogen as a fuel for the catalytic combustor under heating by waste heat from the fuel cell. Since the catalytic combustor can generate high temperature heat, a hydrogen absorbing material having a high hydrogen release temperature and a high hydrogen storage capacity per unit weight can be used as the first hydrogen absorbing material.